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| Module | Lessons | Vocab and Tools | Standards |
| Functions (Modules 5 & 6)  Functions (Modules 5 & 6) | *Lessons 3-8 from Module 5*  3: Linear Functions and Proportionality  4: More Examples of Functions  5: Graphs of Functions and Equations  6: Graphs of Linear Functions and Rate of Change  7: Comparing Linear Functions and Graphs  8: Graphs of Simple Nonlinear Functions  *Lessons 1-14 from Module 6*  1: Modeling Linear Functions  2: Interpreting Rate of Change and Initial Value  3: Representations of a Line  4: Increasing and Decreasing Functions  5: Increasing and Decreasing Functions  **Assessment A**  6: Scatter Plots  7: Patterns in Scatter Plots  8: Informally Fitting a Line  9: Determining the Equation of a Line Fit to Data  13: Summarizing Bivariate Categorical Data in a Two-Way Table  14: Association Between Categorical Variables  **Assessment B** | New or Recently Introduced Terms  **Function** (A *function* is a rule that assigns to each input exactly one output.)  **Input** (The number or piece of data that is put into a function is the *input*.)  **Output** (The number or piece of data that is the result of an input of a function is the *output*.)  **Association** (An *association* is a relationship between two variables. The tendency for two variables to vary together in a predictable way.)  **Column relative frequency** (In a two-way table, a *column relative frequency* is a cell frequency divided by the column total for that cell.)  **Row relative frequency** (In a two-way table, a *row relative frequency* is a cell frequency divided by the row total for that cell.)  **Two-way table** (A *two-way table* is a table used to summarize data on two categorical variables. The rows of the table correspond to the possible categories for one of the variables, and the columns of the table correspond to the possible categories for the other variable. Entries in the cells of the table indicate the number of times that a particular category combination occurs in the data set or the frequency for that combination.)  Familiar Terms and Symbols[[1]](#footnote-1)  Area  Linear Equation  Nonlinear equation  Rate of change  Solids  Volume  Categorical variable  Intercept or Initial value  Numerical variable  Scatter plot  Slope  **Suggested Tools and Representations**  3D solids: cones, cylinders, and spheres.  Graphing calculator  Scatter plot  Two-way tables | 8.F.A.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.[[2]](#footnote-2)  8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.*  8.F.A.3 Interpret the equation as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function giving the area of a square as a function of its side length is not linear because its graph contains the points , and which are not on a straight line.*  8.F.B.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (,) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.  8.F.B.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.  8.SP.A.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.  8.SP.A.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.  8.SP.A.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of as meaning that an additional hour of sunlight each day is associated with an additional in mature plant height.*  8.SP.A.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?* |

1. [↑](#footnote-ref-1)
2. [↑](#footnote-ref-2)